INDEX TO VOLUME 65, 1987

AUTHORS AND PAPERS Agarwal, P. K. and Wildegger-Gaissmaier, A. E., Combustion		Davey, K. R., Determining thermal survivor data of micro- organisms—the Lin model studies	234
of coal volatiles in gas fluidised beds	431		396
	431	Davies, G. A. (see Fairclough, A. R. N.)	
Ahrabi, F., Ashcroft, S. J. and Shearn, R. B., High pressure volumetric, phase composition and viscosity data for a North		Dawe, R. A. (see Lambeth, N.)	52 180
Sea crude oil and NGL	63	Dell'Ava, P. (see Bourne, J. R.)	180
Alderman, N. J. (see Crittenden, B. D.)	165	Diaz, F., Alvarez, M. and Santamaria, J., Deposition kinetics	
Alkio, M. (see Harvala, T.)	386	of peroxides formed in the liquid phase oxidation of 2-butanol	285
Al-Shalabe, M. I. (see Greaves, M.)	29	Dunnill, P., Biochemical engineering and biotechnology	211
Alsop, R. M. (see Barker, P. E.)	390	Dunnin, F., Biochemical engineering and biotechnology	211
	285	Factured A D (see Limbell D)	408
Alvarez, M. (see Diaz, F.) Andrews, P. R. and Cornwell, K. J., Cross-sectional and	203	Eastwood, A. R. (see Linnhoff, B.)	490
longitudinal heat transfer variations in a reboiler tube bundle		Edwards, M. F. (see Rowe, P. N.) Ellul, I. R. and Issa, R. I., Prediction of the flow of interspersed	490
section	127		84
Archer, J. S. (see Pietlicki, R.)	107	gas and liquid phases through pipe bends	0.4
Ashcroft, I. L. (see Ormerod, L.)	97	Fairclough, A. R. N., Chan, K. L. and Davies, G. A., An	
Ashcroft, S. J. (see Ahrabi, F.)	63		396
Asheroit, S. J. (See Ahraoi, 1)	03	analysis of fibre filters for filtration of dilute suspensions	
Bailes, P. J. and Stitt, E. H., Column liquid contacting with			, 318
vigorous agilation balanced by electrostatic coalescence.		Fan, Z., Oloidi, J. O. and Slater, M. J., Liquid-liquid extraction	242
	514	column design data acquisition from short columns	243 29
Part I: intensified coalescence-redispersion Barker, P. E., Bhambra, K. S., Alsop, R. M. and Gibbs, R.,	314	Field, R. W. (see Greaves, M.) Fryer, P. J., Paterson, W. R. and Slater, N. K. H., Robustness	49
Fractionation of dextran using ethanol	390		
Benson, R. S., The state of chemical process control: an	370	of fouling heat exchanger networks and its relation to	267
	461	resilience	267
industrialist's view	451	Garcia del Cerro, M. C. (see Boey, S. C.)	218
Bentsen, R. G. (see Coskuner, G.)	41	Gibbs, R. (see Barker, P. E.)	390
Bertrand, J. (see Biscans, B.)	224 390	Grace, J. R. (see Zhao, J.)	426
Bhambra, K. S. (see Barker, P. E.) Birkill, R. S. (see Buchalter, E. M.)	381	Greaves, M., Field, R. W. and Al-Shalabe, M. I., In-situ	120
Biscans, B. and Bertrand, J., Electrophoretic separations—	301	combustion studies of North Sea Forties and Maya crude oils	29
modelling of the transient state of the buffer solution flow	224	Greaves, M. (see Patel, K. M.)	12
	224	Guedes de Carvalho, J. R. F. (see Rocha, F. A. N.)	279
Boey, S. C., Garcia del Cerro, M. C. and Pyle, D. L., Extraction	210	Gungor, K. E. and Winterton, R. H. S., Simplified general	217
of citric acid by liquid membrane extraction	218	correlation for saturated flow boiling and comparisons of	
Boger, D. V. (see Wardhaugh, L. T.)	74	correlations with data	148
Bos, A. S. and Zuiderweg, F. J., Size of agglomerates in batchwise suspension agglomeration	187	correlations with data	140
Bourne, J. R. and Dell'Ava, P., Micro- and macromixing in	107	Hammonds, J. (see Cook, D. K.) 310	, 318
stirred tank reactors of different sizes	180	Harris, I. J. (see Warner, J.)	261
	100	Harvala, T., Alkio, M. and Komppa, V., Extraction of tall oil	-01
Buchalter, E. M., Hofman, D. L., Craig, W. M., Birkill, R. S. and Smit, J. J., Supported liquid membrane technology		with supercritical carbon dioxide	386
		Hawes, R. I., Enhanced oil recovery research at the Atomic	200
applied to the recovery of useful isotopes from reactor pool water	381	Energy Establishment	4
Burley, R. W., Wai, P-C. and McGuire, G., Process engineering	361	Hewitt, G. F. (see Rowe, P. N.)	451
approach to dyeing machinery—a study of package dyeing		Hofman, D. L. (see Buchalter, E. M.)	381
machine dynamics	505	Horng, D-S. and Liapis, A. I., Study of the influence of	
macinic dynamics	505	the dusty-gas permeabilities on the behaviour of parallel	
Chamberlain, G. A., Developments in design methods for		reactions	272
predicting thermal radiation from flares	299		5, 171
Chan, K. L. (see Fairclough, A. R. N.)	396	Hu, T-T. and Wu, J-Y., Study on the characteristics of a	,
Chen, J. J. J., Heat transfer in bubble columns-application of		biological fluidized bed in a magnetic field	238
the Ruckenstein-Smigelschi model	115), 318
Cheng, C-S. and Shih, Y-S., Theoretical analysis of an absorp-		Hughes, R., Kamath, V. M. and Price, D., Kinetics of 'in-situ'	,
tion heat pump with continuous regeneration of working		combustion for oil recovery	23
fluids by solvent extraction	415	000	
Chhabra, R. P. (see Rowe, P. N.)	490	Issa, R. I. (see Ellul, I. R.)	84
Cook, D. K., Fairweather, M., Hammonds, J. and Hughes,	,,,,	Izumi, T. (see Tanaka, M.)	195
D. J., Size and radiative characteristics of natural gas flares.		and the second s	
Part 1—Field scale experiments	310	Kamath, V. M. (see Hughes, R.)	23
Size and radiative characteristics of natural gas flares. Part		Kawase, Y. and Moo-Young, M., Heat transfer in bubble	
2—Empirical model	318	column reactors with Newtonian and non-Newtonian fluids	121
Cornwell, K. J. (see Andrews, P. R.)	127	Kolaczkowski, S. T. (see Crittenden, B. D.)	171
Coskuner, G. and Bentsen, R. G., On the development of a		Komppa, V. (see Harvala, T.)	386
functional form for the surface of an immiscible viscous		Kreysa, G. and Schaller, C., Electrochemical investigations of	
finger and the use of this surface in stability theory	41	fluid/fluid mass transfer and axial dispersion	139
Craig, W. M. (see Buchalter, E. M.)	381		
Crittenden, B. D., Hout, S. A. and Alderman, N. J., Model		Lambeth, N. and Dawe, R. A., Viscous effects for miscible	
experiments of chemical reaction fouling	165	displacements in regular heterogeneous porous media	52
Crittenden, B. D., Kolaczkowski, S. T. and Hout, S. A.,			
Modelling hydrocarbon fouling	171	Liapis, A. I. (see Horng, D-S.) Lim, C. J. (see Zhao, J.)	272 426

C

INDEX TO VOLUME 65, 1987

AUTHORS AND PAPERS Agarwal, P. K. and Wildegger-Gaissmaier, A. E., Combustion		Davey, K. R., Determining thermal survivor data of micro- organisms—the Lin model studies	234
of coal volatiles in gas fluidised beds	431		396
	431	Davies, G. A. (see Fairclough, A. R. N.)	
Ahrabi, F., Ashcroft, S. J. and Shearn, R. B., High pressure volumetric, phase composition and viscosity data for a North		Dawe, R. A. (see Lambeth, N.)	52 180
Sea crude oil and NGL	63	Dell'Ava, P. (see Bourne, J. R.)	180
Alderman, N. J. (see Crittenden, B. D.)	165	Diaz, F., Alvarez, M. and Santamaria, J., Deposition kinetics	
Alkio, M. (see Harvala, T.)	386	of peroxides formed in the liquid phase oxidation of 2-butanol	285
Al-Shalabe, M. I. (see Greaves, M.)	29	Dunnill, P., Biochemical engineering and biotechnology	211
Alsop, R. M. (see Barker, P. E.)	390	Dunnin, F., Biochemical engineering and biotechnology	211
	285	Factured A D (see Limbell D)	408
Alvarez, M. (see Diaz, F.) Andrews, P. R. and Cornwell, K. J., Cross-sectional and	203	Eastwood, A. R. (see Linnhoff, B.)	490
longitudinal heat transfer variations in a reboiler tube bundle		Edwards, M. F. (see Rowe, P. N.) Ellul, I. R. and Issa, R. I., Prediction of the flow of interspersed	490
section	127		84
Archer, J. S. (see Pietlicki, R.)	107	gas and liquid phases through pipe bends	0.4
Ashcroft, I. L. (see Ormerod, L.)	97	Fairclough, A. R. N., Chan, K. L. and Davies, G. A., An	
Ashcroft, S. J. (see Ahrabi, F.)	63		396
Asheroit, S. J. (See Ahraoi, 1)	03	analysis of fibre filters for filtration of dilute suspensions	
Bailes, P. J. and Stitt, E. H., Column liquid contacting with			, 318
vigorous agilation balanced by electrostatic coalescence.		Fan, Z., Oloidi, J. O. and Slater, M. J., Liquid-liquid extraction	242
	514	column design data acquisition from short columns	243 29
Part I: intensified coalescence-redispersion Barker, P. E., Bhambra, K. S., Alsop, R. M. and Gibbs, R.,	314	Field, R. W. (see Greaves, M.) Fryer, P. J., Paterson, W. R. and Slater, N. K. H., Robustness	49
Fractionation of dextran using ethanol	390		
Benson, R. S., The state of chemical process control: an	370	of fouling heat exchanger networks and its relation to	267
	461	resilience	267
industrialist's view	451	Garcia del Cerro, M. C. (see Boey, S. C.)	218
Bentsen, R. G. (see Coskuner, G.)	41	Gibbs, R. (see Barker, P. E.)	390
Bertrand, J. (see Biscans, B.)	224 390	Grace, J. R. (see Zhao, J.)	426
Bhambra, K. S. (see Barker, P. E.) Birkill, R. S. (see Buchalter, E. M.)	381	Greaves, M., Field, R. W. and Al-Shalabe, M. I., In-situ	120
Biscans, B. and Bertrand, J., Electrophoretic separations—	301	combustion studies of North Sea Forties and Maya crude oils	29
modelling of the transient state of the buffer solution flow	224	Greaves, M. (see Patel, K. M.)	12
	224	Guedes de Carvalho, J. R. F. (see Rocha, F. A. N.)	279
Boey, S. C., Garcia del Cerro, M. C. and Pyle, D. L., Extraction	210	Gungor, K. E. and Winterton, R. H. S., Simplified general	217
of citric acid by liquid membrane extraction	218	correlation for saturated flow boiling and comparisons of	
Boger, D. V. (see Wardhaugh, L. T.)	74	correlations with data	148
Bos, A. S. and Zuiderweg, F. J., Size of agglomerates in batchwise suspension agglomeration	187	correlations with data	140
Bourne, J. R. and Dell'Ava, P., Micro- and macromixing in	107	Hammonds, J. (see Cook, D. K.) 310	, 318
stirred tank reactors of different sizes	180	Harris, I. J. (see Warner, J.)	261
	100	Harvala, T., Alkio, M. and Komppa, V., Extraction of tall oil	-01
Buchalter, E. M., Hofman, D. L., Craig, W. M., Birkill, R. S. and Smit, J. J., Supported liquid membrane technology		with supercritical carbon dioxide	386
		Hawes, R. I., Enhanced oil recovery research at the Atomic	200
applied to the recovery of useful isotopes from reactor pool water	381	Energy Establishment	4
Burley, R. W., Wai, P-C. and McGuire, G., Process engineering	361	Hewitt, G. F. (see Rowe, P. N.)	451
approach to dyeing machinery—a study of package dyeing		Hofman, D. L. (see Buchalter, E. M.)	381
machine dynamics	505	Horng, D-S. and Liapis, A. I., Study of the influence of	
macinic dynamics	505	the dusty-gas permeabilities on the behaviour of parallel	
Chamberlain, G. A., Developments in design methods for		reactions	272
predicting thermal radiation from flares	299		5, 171
Chan, K. L. (see Fairclough, A. R. N.)	396	Hu, T-T. and Wu, J-Y., Study on the characteristics of a	,
Chen, J. J. J., Heat transfer in bubble columns-application of		biological fluidized bed in a magnetic field	238
the Ruckenstein-Smigelschi model	115), 318
Cheng, C-S. and Shih, Y-S., Theoretical analysis of an absorp-		Hughes, R., Kamath, V. M. and Price, D., Kinetics of 'in-situ'	,
tion heat pump with continuous regeneration of working		combustion for oil recovery	23
fluids by solvent extraction	415	000	
Chhabra, R. P. (see Rowe, P. N.)	490	Issa, R. I. (see Ellul, I. R.)	84
Cook, D. K., Fairweather, M., Hammonds, J. and Hughes,	,,,,	Izumi, T. (see Tanaka, M.)	195
D. J., Size and radiative characteristics of natural gas flares.		and the second s	
Part 1—Field scale experiments	310	Kamath, V. M. (see Hughes, R.)	23
Size and radiative characteristics of natural gas flares. Part		Kawase, Y. and Moo-Young, M., Heat transfer in bubble	
2—Empirical model	318	column reactors with Newtonian and non-Newtonian fluids	121
Cornwell, K. J. (see Andrews, P. R.)	127	Kolaczkowski, S. T. (see Crittenden, B. D.)	171
Coskuner, G. and Bentsen, R. G., On the development of a		Komppa, V. (see Harvala, T.)	386
functional form for the surface of an immiscible viscous		Kreysa, G. and Schaller, C., Electrochemical investigations of	
finger and the use of this surface in stability theory	41	fluid/fluid mass transfer and axial dispersion	139
Craig, W. M. (see Buchalter, E. M.)	381		
Crittenden, B. D., Hout, S. A. and Alderman, N. J., Model		Lambeth, N. and Dawe, R. A., Viscous effects for miscible	
experiments of chemical reaction fouling	165	displacements in regular heterogeneous porous media	52
Crittenden, B. D., Kolaczkowski, S. T. and Hout, S. A.,			
Modelling hydrocarbon fouling	171	Liapis, A. I. (see Horng, D-S.) Lim, C. J. (see Zhao, J.)	272 426

C

	INI	DEX	525
Linnhoff, B. and Eastwood, A. R., Overall site optimisation by		Wardhaugh, L. T. and Boger, D. V., Measurement of the	
pinch technology	408	unique flow properties of waxy crude oils Warner, J. and Harris, I. J., Design of multicomponent solvent	74
McConvey, I. F., Sorption of vitamin B12 from aqueous		extraction systems	261
solution	231	Webb, D. R. (see Raschtian, D.)	157
McGuire, G. (see Burley, R. W.)	505	Wildegger-Gaissmaier, A. E. (see Agarwal, P. K.)	431
Moo-Young, M. (see Kawase, Y.) Morari, M., Robust process control	121 462	Winterton, R. H. S. (see Gungor, K. E.) Worthington, D. H., Patrick, M. A. and Wragg, A. A., Effect	148
Olaidi I O (see Fee 7)	242	of shape on natural convection heat and mass transfer at horizontally oriented cuboids	121
Oloidi, J. O. (see Fan, Z.)	243	Wragg, A. A. (see Worthington, D. H.)	131
Ormerod, L., Todd, A. C., Tweedie, J. A. and Ashcroft, I. L., Techno-economic modelling of gas condensate development	97	Wu, J-Y. (see Hu, T-T.)	238
Patel, K., Sirl, D., Thomas, W. J. and Ullah, U., Dynamic characteristics of a toxic vapour monitor	326	Ydstie, B. E., Adaptive process control	480
Patel, K. M., Greaves, M., Surfactant dispersion in porous	520	Zhao, J., Lim, C. J. and Grace, J. R., Coal burnout times in	
media	12	spouted and spout-fluid beds	426
Paterson, W. R. (see Fryer, P. J.)	267	Zuiderweg, F. J. (see Bos, A. S.)	187
Patrick, M. A. (see Worthington, D. H.)	131		
Perkins, J. D. (see Russell, L. W.)	453		
Pietlicki, R. and Archer, J. S., Novel scheme for control of numerical diffusion and dispersion in three dimensional	107		
reservoir simulation	107	TITLES AND KEYWORDS FOR PAPERS	
Pitblado, R. M. and Lake, I. A., Guidelines for the application of hazard warning	334	Absorption during gas injection through a submerged nozzle.	
Price, D. (see Hughes, R.)	23	Part II: Interfacial areas, Rocha, F.A.N., Guedes de	
Pyle, D. L. (see Boey, S. C.)	218	Carvalho, J. R. F.	279
7,1, = 1 = 1, (-1 = 1,)		absorption heat pump	415
Raschtian, D. and Webb, D. R., Condensation of steam from		adaptive control	480
mixtures with air in a shell and tube exchanger at atmos-		Adaptive process control, Ydstie, B. E.	480
pheric and reduced pressures	157	adsorber adsorption 23	199 31, 326
Roberts, A. F., HSE's research programme on loss prevention	291	agglomerate size	187
Rocha, F. A. N. and Guedes de Carvalho, J. R. F., Absorption		agglomeration	187
during gas injection through a submerged nozzle. Part II: interfacial areas	279	An analysis of fibre filters for filtration of dilute suspensions,	
Rowe, P. N. and Hewitt, G. F., Professor Jack Richardson: an	217	Fairclough, A. R. N., Chan, K. L. and Davies, G. A.	396
appreciation	489	annuli	148
Russell, L. W. and Perkins, J. D., Towards a method for		application	199
diagnosis of controllability and operability problems in		audit	334
chemical plants	453	axial mixing	243
Santamaria, J. (see Diaz, F.)	285	back convection	171
Schaller, C. (see Kreysa, G.)	139	batch kinetics	234
Shearn, R. B. (see Ahrabi, F.)	63	batch reactor bed diameter	345
Shih, Y-S. (see Cheng, C-S.)	415	biochemical engineering	211
Shoaei, M. and Tedder, D. W., Design calculations for multi-	261	Biochemical engineering and biotechnology, Dunnill, P.	211
component distillation by an improved shortcut method Shook, C. A. (see Rowe, P. N.)	251 490	biological	238
Sirl, D. (see Patel, K.)	326	biological fluidized bed	238
Slater, M. J. (see Fan, Z.)	243	biotechnology	211
	0.00	boiling	148
Slater, N. K. H. (see Fryer, P. J.)	267	bubble column	121
Smit, J. J. (see Buchalter, E. M.) Smith, J. M. (see Rowe, P. N.)	381 490	bubble columns	279
Steele, D. F., Corrosion control in nuclear fuel reprocessing	490	bubble formation bubble growth	345
plants	375	2-butanol	285
Stitt, E. H. (see Bailes, P. J.)	514	2 000000	
Szekeley, J. (see Rowe, P. N.)	490	CAD	45
		caesium	381
Tan, T. C., New screening technique and classification of salts		calcium oxalate	342
for the salt distillation of close-boiling and azeotropic solvent			79, 386
mixtures	421	chaos	480
Tanaka, M. and Izumi, T., Gas entrainment in stirred tank reactors	195	characteristic velocity chemical reactions	24:
Tedder, D. W. (see Shoaei, M.)	251	citric acid	218
Thomas, W. J. (see Patel, K.)	326	coal	426
Thompson, P. J., Solvent extraction equipment development at		Coal burnout times in spouted and spout-fluid beds, Zhao, J.,	
Dounreay	371	Lim, C. J. and Grace, J. R.	420
Tine, C. B. D., Single pellet model application to a two		column coalescence-redispersion	514
component fixed bed adsorber	199	Column liquid contacting with vigorous agitation balanced	
Todd, A. C. (see Ormerod, L.)	97	by electrostatic coalescence. Part I: intensified coalescence-	

97

326

505 442 coal combustion

combustion

commercial

redispersion, Bailes, P. J. and Stitt, E. H.

Combustion of coal volatiles in gas fluidized beds, Agarwal, P. K., and Wildegger-Gaissmaier, A. E.

514

431

426

431

390

Wai, P-C. (see Burley, R. W.) Walters, J. K., Fourteenth Annual Research Meeting

Todd, A. C. (see Ormerod, L.) Tweedie, J. A. (see Ormerod, L.)

Ullah, U. (see Patel, K.)

INDEX

Condensation of steam from mixtures with air in a shell		fatty acids 386
and tube exchanger at atmospheric and reduced pressures,		fault-tree 334
Rashtchian, D. and Webb, D. R.	157	Fenske 25
condenser	157	fermentation 211, 218
constraints	480	fibre mats 396
controlability	453	field experiments 310
correlations	148	filtration 390
corrosion	375	filtration efficiency 396
	313	
Corrosion control in nuclear fuel reprocessing plants,	375	
Steele, D. F.	3/3	
Cross-sectional and longitudinal heat transfer variations in		fission 38
a reboiler tube bundle section, Andrews, P. R. and		flame shape 299
Cornwell, K. J.	127	flame stability 299
crude oil 23, 2		flare radiation 299
crystallisation	342	flares 310, 315
cuboids	131	flow 14
		flow boiling 12
decomposition	285	flow in porous media 53
Decomposition kinetics of peroxides formed in the liquid		fluidisation 420
phase oxidation of 2-butanol, Diaz, F., Alvarez, M. and		fluidised beds 238, 43
Santamaria, J.	285	forgetting factor 48
dense gas dispersion	291	force potential 4
design 157, 199, 251	. 453	forward combustion 2
Design calculations for multicomponent distillation by an	,	
improved shortcut method, Shoaei, M. and Tedder, D. W.	251	fouling 165, 171, 26
Design of multicomponent solvent extraction systems,	231	Fourteenth annual research meeting, Walters, J. K. 44.
	261	fractionation 39
Warner, J. and Harris, I. J.	261	Fractionation of dextran using ethanol, Barker, P. E.,
design procedure	261	Bhambra, K. S. Alsop R. M. and Gibbs R. 39
Determining thermal survivor data of micro-organisms—the		front tracking 10
Lin model studies, Davey, K. R.	234	
Developments in design methods for predicting thermal		gas absorption 27
radiation from flares, Chamberlain, G. A.	299	gas condensates 9
devolatilisation	431	gas cycling 9
Dextran	390	gas dispersion 19.
diffusion 231	, 326	gas displacement experiments
diffusion control	107	Gas entrainment in stirred-tank reactors, Tanaka, M. and
dilute mixtures	396	
distillation	251	
distillation control	462	gas fluidised beds 34
Dounreay	371	gas liquid system
	272	gas re-entrainment 19
dusty-gas model		Generation of supersaturation using reverse osmosis, Azoury,
dyeing machines	505	R., Robertson, W. G. and Garside, J.
	, 505	genetic engineering 21
Dynamic characteristics of a toxic vapour monitor, Patel K.,		Gilliland 25
Sirl, D. Thomas W. J. Ullah, U.	326	Guidelines for the application of hazard warning, Pitblado,
dynamic reactor response	139	R. M. and Lake. I. A.
economics	97	hazard warning 33
eddy diffusivity	121	heat exchangers 26
education	211	heat transfer 115, 121, 131, 14
Effect of bed diameter on bubble growth and incipient slugging		Heat transer in bubble column reactors with Newtonian and
in gas fluidised beds, Agarwal, P. K.	345	non-Newtonian fluids, Kawase, Y. and Moo-Young, M. 12
Effect of shape on natural convection heat and mass transfer at	0.0	Heat transfer in bubble columns—application of the
horizontally oriented cuboids, Worthington, D. H., Patrick,		
	131	,
M. A. and Wragg, A. A.		heat transfer—tubes
electrochemical	131	Hele-Shaw cell
Electrochemical investigations of fluid/fluid mass transfer and	120	heterogeneities 5
axial dispersion, Kreysa, G. and Schaller, C.	139	high pressure 6
electrochemical measurement	139	High pressure volumetric phase composition and viscosity data
electrophoresis	224	for a North Sea crude oil and NGL, Ahrabi, F., Ashcroft,
Electrophoretic separations—modelling of the transient state of		S. J. and Shearn, R. B. 6
the buffer solution flow, Biscans, B. and Bertrand, J.	224	high velocity flares 29
electrostatic coalescence	514	high viscosity 11
empirical model	318	HSE's research programme on loss prevention, Roberts, A. F. 29
energy saving	408	hydrocarbons 165, 17
enhanced oil recovery	4, 12	
Enhanced oil recovery research at the Atomic Energy	, 14	hydrodynamics 22
	4	1
Establishment, Hawes, R. I.		immiscible fluids 4
enhanced recovery	41	impeller stirred baffled tank
equipment development	371	incipient slugging 34
estimation	480	in-situ 2
explosion	291	in-situ combustion 23, 2
	3, 386	In-situ combustion studies of North Sea Forties and Maya
Production of class wild by Userial and by the contract of the Production Pro		crude oils, Greaves, M., Field, R. W. and Al-Shalabe, M. I. 2
Extraction of citric acid by liquid membrane extraction, Boey,		
S. C., Garcia del Cerro, M. C. and Pyle, D. L.	218	integration 408, 45
S. C., Garcia del Cerro, M. C. and Pyle, D. L.	218	integration 408, 45 interfacial areas 27
	218 386	integration 408, 45 interfacial areas 27 irradiated fuel reprocessing 37

285 porous catalysts kinetic 272 23 porous media 12 kinetics Kinetics of 'in-situ' combustion for oil recovery, Hughes, R., pour point 74 Kamath, V. M. and Price, D. 23 precipitation 342 Prediction of the flow of interspersed gas and liquid phases through pipe bends, Ellul, I. R. and Issa, R. I. light and medium crude oils 29 84 234 Lin model prediction of pore structure 396 predictive control liquid extraction 243, 514 480 predictive model Liquid/liquid extraction column design data acquisition from 355 243 process control short columns, Fan, Z., Oloidi, J. O. and Slater, M. J. 451 Process engineering approach to dyeing machinery-a study of liquid membrane 218 285 package dyeing machine dynamics, Burley, R., Wai, P-C. and liquid-phase 291 loss prevention McGuire, G. 505 process design 267 magnetic 238 process synthesis 267 major hazards 291 Professor Jack Richardson: an appreciation, Rowe, P. N., Hewitt, G. F., Chhabra, R. P., Edwards, M. F., Shook, mass transfer 131, 139, 165, 171, 231, 243 material balance 97 C. A., Smith, J. M. and Szekely, J. 490 mathematical 390 protein 224 mathematical modelling 84, 453, 505 pulsed plate column 371 Measurement of the unique flow properties of waxy crude oils, PVT 63, 97 Wardhaugh, L. T. and Boger, D. V. 74 medium crude oils 29 radiation 310, 318 Micro and macro-mixing in stirred tank reactors of different reactor 180 sizes, Bourne, J. R. and Dell'Ava, P. 180 reactor loop 139 micromixing 180 reboilers 127 mixing 514 research 291, 381 model 199, 390, 462 reservoir simulation 52, 107 Model experiments of chemical reaction fouling, Crittenden, retrofit 408 B. D., Hout, S. A. and Alderman, N. J. reverse osmosis 342, 381 modelling 139, 224 Robustness of fouling heat exchanger networks and its Modelling hydrocarbon fouling, Crittenden, B. relation to resilience, Fryer, P. J., Paterson, W. R. and Kolaczkowski, S. T. and Hout, S. A. Slater, N. K. H. 267 Model for predicting the effect of dissolved salt on the vapour robust control 462 liquid equilibrium of solvent mixtures. Tan, T. C. 335 Robust process control, Morari, M. 486 monitor 326 rosin acids 386 multicomponent 251 261 rotating disc contactor (RDC) 243 multiphase flow 24 multivariable control 462 multivariable interactions 462 salt classification 421 salt effect 355, 421 natural convection 131 sand 23 natural gas 310, 318 scale-up 180 New screening technique and classification of salts for the salt screening technique 421 distillation of close-boiling and azeotrophic solvent mixtures. selectivity 180 Tan, T. C. 421 separation 224 NGI. 63 shell and tube boilers 127 nitric acid 375 Simplified general correlations for saturated flow boiling and non-Newtonian fluids 121 comparisons of correlations with data, Gungor, K. E. and North Sea 97 Winterton, R. H. S. 148 North Sea crude oil 63 simulation 4, 107, 267, 505 Novel scheme for control of numerical diffusion and dispersion single pellet 199 Single pellet model application to a two component fixed bed in three dimensional reservoir simulation, Pietlicki, R. and Archer, J. S. 107 adsorber, Tine, C. B. D. 199 numerical method site optimisation 408 84 numerical methods 224 Size of agglomerates in batchwise suspension agglomeration, Bos, A. S. and Zuiderweg, F. J. numerical modelling 107 187 Size and radiative characteristics of natural gas flares, Cook, 52 oil reservoir recovery D. K., Fairweather, M., Hammonds J. and Hughes D. J. 310 On the development of a functional form for the surface of an Size and radiative characteristics of natural gas flares, Cook, immiscible viscous finger and the use of this surface in 318 D. K., Fairweather, M., Hammonds and Hughes D. J. stability theory, Coskuner, G. and Bentsen, R. G. 41 Smith predictor 462 operability 453 sodium hydroxide 279 optimal control 462 solvent extraction 261, 371, 415 optimisation 251, 408 Solvent extraction equipment development at Dounreay, overall selectivity 272 Thompson, P. J. 371 Overall site optimisation by pinch technology, Linnhoff, B. and Sorption of vitamin B12 from aqueous solution, McConvey, Eastwood, A. R. 408 I. F. 231 spouted bed 426 spreadsheet 334 parallel reactions 272 stability 41 petroleum 107 375 phase equilibria 63 stainless steels pinch technology 408 State of chemical process control: an industrialist's view, 451 pipeline 74 Benson, R. S. Poisson 334 sterilisation 234 396 polymer flooding stochastic model 381 polymerisation 165, 171 strontium

INDEX

527

Study on the characteristics of a biological fluidized bed in a		BOOKS REVIEWED	
magnetic field, Hu, T-T. and Wu, J-Y.	238	Adsorption and Ion Exchange: Recent Developments,	
Study of the influence of the dusty-gas permeabilities on the		J. P. Avsikaitis and A. L. Myers (eds) (AIChE) Reviewed by	
behaviour of parallel reactions occurring in a porous catalyst		P. J. Heggs	73
pellet, Horng, D-S. and Liapis, A. I.	272	Adsorption technology: a step by step approach to process	
styrene	165	evaluation and application. F. L. Slejko (Marcel Dekker Inc)	
submerged nozzle	279	Reviewed by R. Thornton.	374
supercritical	386		
supersaturation	342	Chemical Process Simulation, A. Husain (Wiley Eastern)	
supported liquid membranes	381	Reviewed by F. A. Perris	317
Supported liquid membrane technology applied to the recovery		D.M	
of useful isotopes from reactor pool water, Hofman, D. L.,	201	Diffusion Mass Transfer in Fluid Systems. E. L. Cussler	200
Craig, W. M., Buchalter, E. M., Birkill, R. S. and Smit, J. J.	381 195	(Cambridge University Press) Reviewed by P. N. Snowdon.	380
surface aeration		Fluiding in 195 Calones and Taskanlam M. Vunnik at al.	
surface area	23	Fluidization '85 Science and Technology, M. Kwauk et al.	260
	5, 171 12	(Elsevier) Reviewed by R. W. Field	368
surfactant dispersion	12	Fouling of heat exchangers: characteristics, costs, prevention,	
Surfactant dispersion in porous media, Patel, K. M. and Greaves, M.	12	control and removal. B. A. Garrett-Price et al. (Noyes) Reviewed by T. R. Bott.	407
surfactant flooding	4		407
	234	Fundamentals of Heat Exchanger and Pressure Vessel Tech-	
survivor data	234	nology, J. P. Gupta (Springer Verlag) Reviewed by C. J.	120
tall oil	386	Norman	120
Techno-economic modelling of gas condensate development,	300	Initiation and Growth of Explosion in Liquids and Solids,	
Ormerod, L., Todd, A. C., Tweedie, J. A. and Ashcroft, I. L.	97	F. P. Bowden and Y. D. Yoffe (Cambridge University Press)	
test rig	371	Reviewed by K. Gugan.	22
Theoretical analysis of an absorbtion heat pump with con-	3/1	Inverse Heat Combustion—Iil Posed Problems, J. V. Beck,	22
tinuous regeneration of working fluids by solvent extraction,		B. Blackwell and C. R. St Clair Jr. (Wiley) Reviewed by	
Cheng, C. S. and Shih, Y. S.	415	F. H. Cass	354
thermal inactivation	234	F. H. Cass	334
thermodynamic analysis	415	Mathematical Models and Design Methods in Solid-Liquid	
Towards a method for diagnosis of controllability and oper-	415	Separation, A. Rushton (Martinus Nijhoff Publishers)	
ability problems in chemical plants, Russell, L. W. and		Reviewed by D. B. Purchas	179
Perkins, J. D.	453	Mixing: Papers Presented at 5th European Conference (BHRA)	
three-phase	238	Reviewed by J. C. Lee	96
toxic	326	Molecular Thermodynamics of Fluid Phase Equilibria (2nd	,,
tube bundles	127	edition), J. M. Prausnitz et al. (Prentice Hall) Reviewed by	
tubes	148	P. N. Snowdon	51
turbulence	180		
turbulent	84	Progress in Energy and Combustion Science Volume 10, N. A.	
two-phase flow	127	Chigier (ed) (Pergamon Press) Reviewed by A. Williams	156
vacuum	157	Recent Advances in the Engineering Analysis of Chemically	
vapour liquid equilibrium 35	5, 421	Reacting Systems, L. K. Doraiswamy (ed) (Wiley Eastern)	
viscometry	74	Reviewed by R. Mann	309
viscosity	63	Reverse Osmosis and Ultrafiltration, S. Sourirajan and Takeshi	
viscous effects	52	Matsuura (eds) (American Chemical Society) Reviewed by	
Viscous effects for miscible displacements in regular hetero-		R. Hill	237
geneous porous media, Lambeth, N. and Dawe, R. A.	52		
vitamin B12	231	Scale-up of Chemical Plant, A. Bisio and R. L. Kabel (Wiley)	
voidage	115	Reviewed by W. R. Paterson	83
volatile combustion	431	Selected Developments in Catalysis, J. R. Jennings (Blackwell)	
		Reviewed by S. P. S. Andrew	28
wax	74	Solvent Extraction and Ion Exchange in the Nuclear Fuel	
		Cycle. D. H. Logsdail and A. L. Mills (Ellis Horwood)	
yield stress	74	Reviewed by M. J. Slater.	385
		Supercritical Fluid Technology. J. M. L. Penninger et al.	
		(Elsevier) Reviewed by Boon Yuen Loh.	444
		Topics in Enzyme Fermentation and Biotechnology 10,	
		A. Wiseman (ed) (Wiley) Reviewed by R. England	242
REGULAR FEATURES			
Annual Research Meeting Report	442	CORRESPONDENCE	
Contents of the Canadian Journal of Chemical Engineering	, 72	From H. R. C. Pratt; Reply P. J. Bailes, J. C. Godfrey and	
112, 147, 266, 325, 43	0.504	M. J. Slater	367
Doctorates in Chemical Engineering 1985–86	207	From P. J. Bailes and S. K. L. Larkai; Reply R. W. L. Snaddon	
List of Referees	450	and F. M. Joos	445
	-		

